Title: ENHANCED MECHANISM FOR AUTOMATICALLY
GENERATING A TRANSFORMATION DOCUMENT
Inventor(s): Matthew D. Birder
Serial No.: NYA
Docket No. 15437-0545

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```
<Person>
    <Name>
        <First> Value </First>
        <Middle> Value </Middle>
        <Last> Value </Last>
    </Name>

    <Address>
        <Street> Value </Street>
        <City> Value </City>
        <State> Value </State>
        <ZipCode> Value </ZipCode>
    </Address>
</Person>
```

Fig. 1

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Fig. 2

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```
<?xml version="1.0" ?>
<sourceDoc>
      <person>
            <name>
                  <first>A</first>
                  <middle>B</middle>
                  <last>C</last>
            </name>
            <address>
                  <street>D</street>
                  <City>E</City>
                  <state>F</state>
                  <zipcode>G</zipcode>
            </address>
      </person>
      <pet>

            <type>cat</type>
            <Petname>tuffy</petname>
      </pet>
</sourceDoc>
```
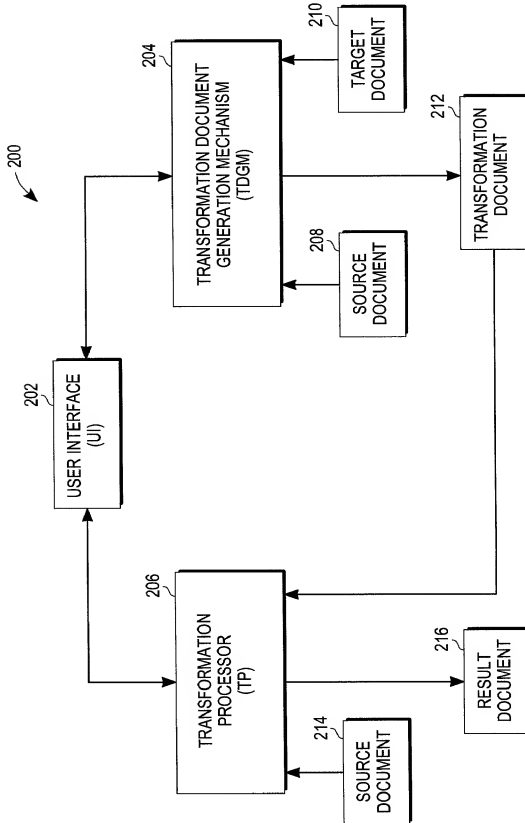
Fig. 3

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```
<?=xml version="1.0" ?>
<targetDoc>
      <person>
            <name>
                  <first>A</first>
                  <last>C</last>
            </name>
            <residence>
                  <street>D</street>
                  <city>E</city>
                  <state>F</state>
                  <zipcode>G</zipcode>
            </residence>
      </person>
      <pet>
            <type>cat</type>
            <petname>tuffy</petname>
      </pet>
</targetDoc>
```
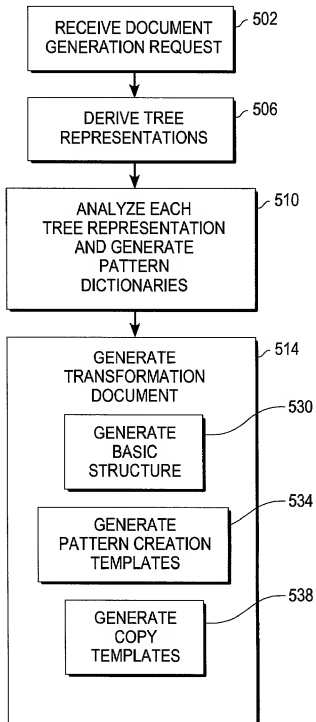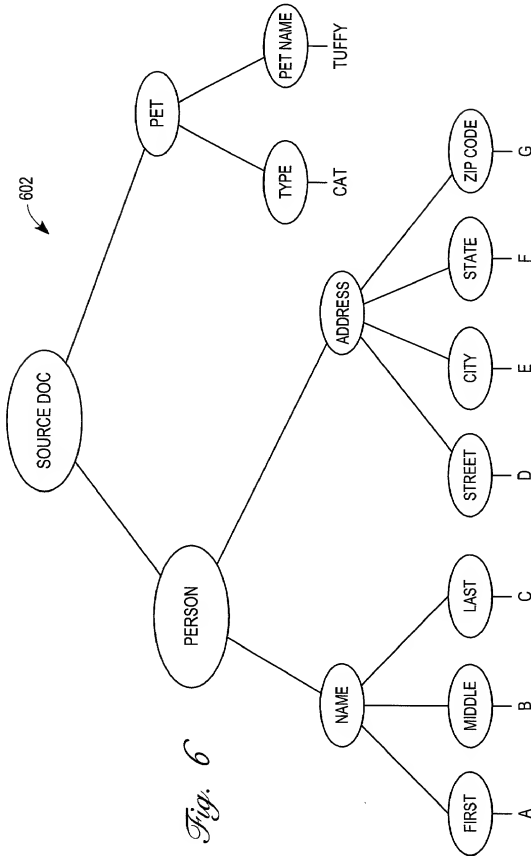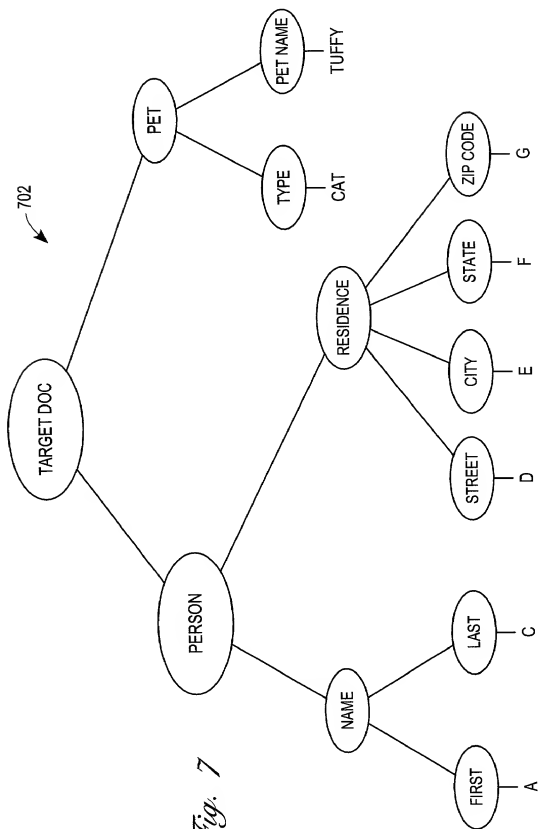
Fig. 4

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```
┌─────────────────────────┐
│   RECEIVE DOCUMENT      │─── 502
│   GENERATION REQUEST    │
└─────────────────────────┘
              │
              ▼
┌─────────────────────────┐
│     DERIVE TREE         │─── 506
│   REPRESENTATIONS       │
└─────────────────────────┘
              │
              ▼
┌─────────────────────────┐
│    ANALYZE EACH         │─── 510
│  TREE REPRESENTATION    │
│   AND GENERATE          │
│     PATTERN             │
│   DICTIONARIES          │
└─────────────────────────┘
              │
              ▼
┌─────────────────────────┐
│     GENERATE            │─── 514
│  TRANSFORMATION         │
│   DOCUMENT              │
│  ┌──────────────────┐   │─── 530
│  │    GENERATE      │   │
│  │     BASIC        │   │
│  │   STRUCTURE      │   │
│  └──────────────────┘   │
│  ┌──────────────────┐   │─── 534
│  │    GENERATE      │   │
│  │ PATTERN CREATION │   │
│  │   TEMPLATES      │   │
│  └──────────────────┘   │
│  ┌──────────────────┐   │─── 538
│  │    GENERATE      │   │
│  │     COPY         │   │
│  │   TEMPLATES      │   │
│  └──────────────────┘   │
│                         │
└─────────────────────────┘
```

Fig. 5

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Fig. 6

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Fig. 7

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PATTERN	REFERENCE ARRAY
SOURCE DOC	[1]
PERSON	[1]
NAME	[1]
FIRST	[1]
MIDDLE	[1]
LAST	[1]
ADDRESS	[1]
STREET	[1]
CITY	[1]
STATE	[1]
ZIP CODE	[1]
PET	[1]
TYPE	[1]
PET NAME	[1]

Fig. 8

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PATTERN	REFERENCE ARRAY
TARGET DOC	[1]
PERSON	[1]
NAME	[1]
FIRST	[1]
LAST	[1]
RESIDENCE	[1]
STREET	[1]
CITY	[1]
STATE	[1]
ZIP CODE	[1]
PET	[1]
TYPE	[1]
PET NAME	[1]

Fig. 9

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```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:transform xmlns:xsl="http://www.w3.org/1999/XSL/Transform" version="1.0">
    <xsl:output method="xml" indent="yes" />

    <!--This Xslt document was generated using iPlanet iIS Xslt Generator-->
    <?iis-generated-xslt-document versions="0.9"?>
    <?iis-xslt-generator-option scanForCopyAction="true"?>
    <?iis-xslt-generator-option scanForPatterns="true"?>
    <?iis-xslt-generator-option buildForCrossReference="true"?>
    <?iis-xslt-generator-option includeIISGenerationPI="true"?>
    <?iis-xslt-generator-option includeIISGenerationOptioZAnsPI="true"?>
    <?iis-xslt-generator-option defaultRule="GO_DEF_RULE_NONE"?>
    <?iis-xslt-generator-option basedOn="GO_SOURCE_TARGET"?>
    <?iis-xslt-generator-option targetSource="GO_FROM_FILE_PATH"?>
    <?iis-xslt-generator-option targetName="FileName"?>
    <?iis-xslt-generator-option targetFilePath="f:\iis_workspace\iisdevtoolsproject\javasource\
com\iplanet\iis\devtools\test\iisxslttools\designer\xmlsamples\bttargetdoc.xml"?>
    <?iis-xslt-generator-option sourceSource="GO_FROM_FILE_PATH"?>
    <?iis-xslt-generator-option sourceName="FileName"?>
    <?iis-xslt-generator-option sourceFilePath="f:\iis_workspace\iisdevtoolsproject\javasource\
com\iplanet\iis\devtools\test\iisxslttools\designer\xmlsamples\btsourcedoc.xml"?>
    <?iis-xslt-generator-option iis-pi-generation-order="GO_ORDER_DEAULT_ROOT_TEMP"?>
    <?iis-xslt-generator-option iis-pi-generation-order="GO_ORDER_TARGET_TEMPS"?>
    <?iis-xslt-generator-option iis-pi-generation-order="GO_ORDER_SOURCE_TEMPS"?>
    <?iis-xslt-generator-option iis-pi-generation-order="GO_ORDER_COPY_TEMPS"?>
    <?iis-xslt-generator-option iis-pi-generation-order="GO_ORDER_DEFAULT_TEMPS"?>
```

1004

```
    <?iis-generated-xslt-code iis-root-template="iis-root-template"?>
    <?iis-generated-xslt-code iis-root-template="iis-from-target"?>
    <xsl:template match="/">
        <targetDoc>
            <xsl:apply-templates />
        </targetDoc>
    </xsl:template>
```

1008

```
    <?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
    <xsl:template match="person">
        <person>
            <xsl:apply-templates />
        </person>
    </xsl:template>
```
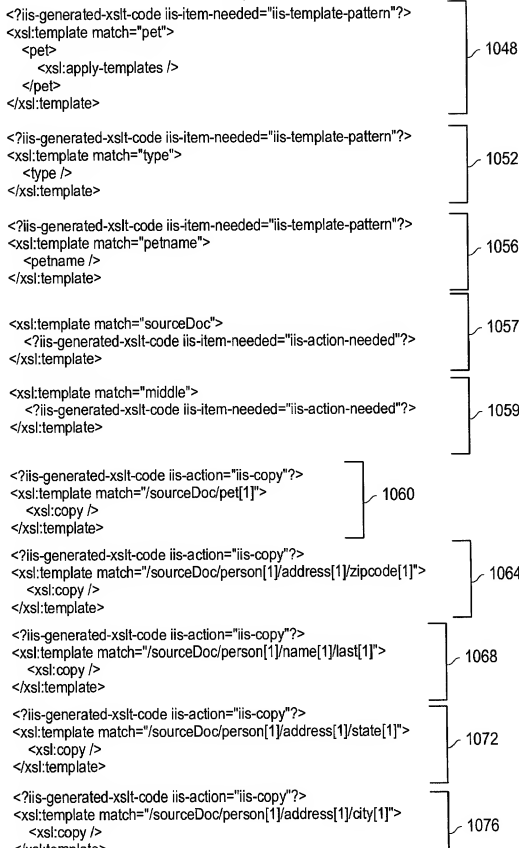
1012

Fig. 10A

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```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="name">
  <name>
    <xsl:apply-templates />
  </name>
</xsl:template>
```
— 1016

```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="first">
  <first />
</xsl:template>
```
— 1020

```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="last">
  <last />
</xsl:template>
```
— 1024

```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="address">
  <residence>
    <xsl:apply-templates />
  </residence>
</xsl:template>
```
— 1028

```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="street">
  <street />
</xsl:template>
```
— 1032

```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="city">
  <city />
</xsl:template>
```
— 1036

```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="state">
  <state />
</xsl:template>
```
— 1040

```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="zipcode">
  <zipcode />
</xsl:template>
```
— 1044

Fig. 10B

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```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="pet">
  <pet>
    <xsl:apply-templates />
  </pet>
</xsl:template>
```
— 1048

```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="type">
  <type />
</xsl:template>
```
— 1052

```
<?iis-generated-xslt-code iis-item-needed="iis-template-pattern"?>
<xsl:template match="petname">
  <petname />
</xsl:template>
```
— 1056

```
<xsl:template match="sourceDoc">
  <?iis-generated-xslt-code iis-item-needed="iis-action-needed"?>
</xsl:template>
```
— 1057

```
<xsl:template match="middle">
  <?iis-generated-xslt-code iis-item-needed="iis-action-needed"?>
</xsl:template>
```
— 1059

```
<?iis-generated-xslt-code iis-action="iis-copy"?>
<xsl:template match="/sourceDoc/pet[1]">
  <xsl:copy />
</xsl:template>
```
— 1060

```
<?iis-generated-xslt-code iis-action="iis-copy"?>
<xsl:template match="/sourceDoc/person[1]/address[1]/zipcode[1]">
  <xsl:copy />
</xsl:template>
```
— 1064

```
<?iis-generated-xslt-code iis-action="iis-copy"?>
<xsl:template match="/sourceDoc/person[1]/name[1]/last[1]">
  <xsl:copy />
</xsl:template>
```
— 1068

```
<?iis-generated-xslt-code iis-action="iis-copy"?>
<xsl:template match="/sourceDoc/person[1]/address[1]/state[1]">
  <xsl:copy />
</xsl:template>
```
— 1072

```
<?iis-generated-xslt-code iis-action="iis-copy"?>
<xsl:template match="/sourceDoc/person[1]/address[1]/city[1]">
  <xsl:copy />
</xsl:template>
```
— 1076

Fig. 10C

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```
<?iis-generated-xslt-code iis-action="iis-copy"?>
  <xsl:template match="/sourceDoc/person[1]/name[1]/first[1]">
    <xsl:copy />
  </xsl:template>
```
— 1080

```
  <?iis-generated-xslt-code iis-action="iis-copy"?>
  <xsl:template match="/sourceDoc/person[1]/address[1]/street[1]">
    <xsl:copy />
  </xsl:template>
</xsl:transform>
```
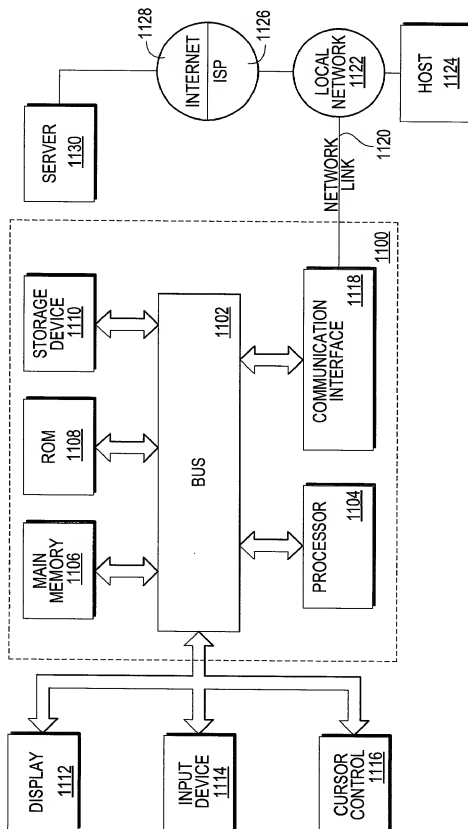— 1084

Fig. 10D

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Fig. 11